

**OFFICE OF MANAGEMENT AND BUDGET**  
**CONNECTND HUMAN RESOURCE MANAGEMENT SYSTEM (HRMS)**  
Bismarck, North Dakota

**INFORMATION SYSTEM AUDIT**  
For the period January 1, 2004 through December 31, 2004

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## TRANSMITTAL LETTER

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May 19, 2005

Honorable John Hoeven, Governor  
Members of the North Dakota Legislative Assembly  
Pam Sharp, Director, Office of Management and Budget  
Laura Glatt, Vice Chancellor, North Dakota University System  
Curt Wolfe, Chief Information Officer, Information Technology Department

Transmitted herewith is the information system audit of the ConnectND Human Resource Management System (HRMS) for the period January 1, 2004 to December 31, 2004. This audit resulted from the statutory responsibility of the State Auditor under NDCC § 54-10-01.

ConnectND HRMS is used to maintain and process payroll records for employees of the state of North Dakota and the North Dakota University System.

ConnectND HRMS was selected for this audit because it is considered a high-risk information system. ConnectND HRMS is considered a high-risk information system because it is a new system and it is the payroll system used by the majority of state agencies, and by institutions of the North Dakota University System. "High-risk" does not necessarily indicate problems with the system, but indicates a higher potential for significant problems to occur.

Inquiries or comments relating to this audit may be directed to Donald LaFleur, Information Systems Audit Manager, by calling (701) 328-4744. We wish to express our appreciation to the Office of Management and Budget, the Information Technology Department, and the North Dakota University System for the courtesy, cooperation, and assistance provided to us during this audit.

Respectfully submitted,

Robert R. Peterson  
State Auditor

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## EXECUTIVE SUMMARY

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The purpose of this report is to provide our analysis, findings, and recommendations regarding our audit of the ConnectND Human Resource Management System (HRMS). This audit was primarily an information system audit; however, we also addressed operational issues related to the system and its operation within the state of North Dakota and the North Dakota University System (NDUS).

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This audit focused primarily on the State's use of ConnectND HRMS, but included testing on the NDUS where noted.

Our audit resulted in the following significant findings:

- Inadequate roles
- Inappropriate access to sensitive information
- Default accounts not locked timely
- Excess superuser access
- Ability to update one's own payroll data
- Invalid chart fields used in ConnectND HRMS
- Inadequate policies and procedures

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## BACKGROUND INFORMATION

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### System Overview

The State of North Dakota has invested in PeopleSoft's HRMS, Financials, and Student Administration enterprise resource planning solutions to replace legacy human resource, financial, and student information systems. The State and North Dakota University System (NDUS) are participating jointly in this project.

The implementation and deployment plan was structured within four components. The four components include a two (2) campus pilot project, a pilot state agency project (included statewide HR/Payroll), a complete deployment for all decentralized functions for all eleven (11) campuses and a complete deployment of decentralized functions for state agencies.

The implementation was originally scheduled over approximately thirty (30) calendar months beginning April of 2002 and completed in the third quarter of 2004. The proposed timeframe for each component was:

- Component One – Two Campus Pilot: April 2002 to April 2003
- Component Two – Office of Management and Budget: April 2002 to April 2003 (including statewide payroll)
- Component Three – Eleven Campus Roll Out: Third quarter 2003 to third quarter 2004
- Component Four – State Agency Roll Out: Third quarter 2003 to third quarter 2004 (including Benefit Admin, Recruit Workforce, Training Admin, & Self-Service)
- Post Production Support: Ninety calendars days from the final acceptance by the State of North Dakota

## Financial Information

Included below are amounts processed on ConnectND HRMS.

State HRMS 1/1/2004-12/31/2004		
511005	Salaries Full Time	242,293,555
511020	Paid Annual Leave	841,066
511025	Pd Retire/Sick Leave	391,594
511030	Severance Pay	43,942
511035	Legislator Monthly Pay	429,061
511045	In State - Meeting Compensation	251,818
511065	Legislator Session Pay	110,961
511070	Other Salary	77,342
512010	Shift Differential	576,827
513005	Temporary Salaries	8,696,171
514005	Overtime	5,477,446
516015	Employee Assist Program	116,152.
516055	Health Insurance	40,355,869
516065	Job Service Retirement	92,845
516070	Job Service Met Life	15,194
516075	Basic Life Insurance	74,304
516090	Other Payroll Assessments	299,911
516095	Other Retirement	2,141,434
516165	Section 125 Administration Fee	476,053
516170	Social Security	18,925,000
516175	State Retirement	20,447,824
516185	Teachers Fund For Retirement	412,660
516205	Unemployment Insurance	455,687
	Total	343,002,716

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## OBJECTIVES, SCOPE, AND METHODOLOGY

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The objective of this audit of ConnectND HRMS for the period January 1, 2004 to December 31, 2004 was to answer the following questions:

1. Are security roles designed to provide access based on a demonstrated need to view, add, change, or delete data?
2. Are accounts that have “superuser” access necessary?
3. Was security implemented to ensure that users do not have update access to their own payroll information?
4. Does payroll data tie to what is recorded on the general ledger?
5. Are Payroll/HRMS policies and procedures adequate?
6. Is the physical processing environment for ConnectND HRMS adequately controlled?
7. Are payroll withholdings and deductions being remitted timely and properly?

This audit was conducted in accordance with *Standards for Information Systems Auditing* issued by the Information Systems Audit and Control Association and *Government Auditing Standards* issued by the Comptroller General of the United States.

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## ARE SECURITY ROLES DESIGNED TO PROVIDE ACCESS BASED ON A DEMONSTRATED NEED TO VIEW, ADD, CHANGE, OR DELETE DATA?

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### Summary of Audit Work Performed

We obtained and reviewed a list of ConnectND HRMS roles and their access rights for the State and the North Dakota University System (NDUS). We reviewed these roles to ensure the access they provided was consistent with their stated purpose. We also reviewed default accounts to ensure they were being locked in a timely manner.

### Audit Findings

#### Inadequate roles

The Office of Management and Budget (OMB) has one primary role for state agency personnel to update human resource and payroll information. This one role gives a user access to nearly all human resource and payroll functions for an agency. The role was developed with the understanding that most payroll clerks at agencies perform all functions related to human resources and payroll. Since there is only one primary role, agencies are not able to give limited access to employees when appropriate. Access to data should be provided based on the individual's demonstrated need to view, add, change, or delete data.

#### Recommendation:

We recommend the Office of Management and Budget design more specialized roles that would allow agencies to give limited access to employees when appropriate.

#### Agency Response:

##### Office of Management and Budget

OMB will develop additional user roles so agencies may divide responsibilities to ensure appropriate internal controls.

#### Inappropriate access to sensitive information

OMB and NDUS have developed inquiry roles which have display access to confidential information such as social security numbers and bank accounts. These roles also have display access to personally identifiable information. Personally identifiable information is defined as "information that identifies or can be used to identify, contact, or locate the person to whom such information pertains." Examples of personally identifiable information include birth date, address, and telephone number. This presents an exposure risk for the confidential and personally identifiable information.

These roles were not reviewed closely enough by OMB and NDUS to ensure that inquiry roles did not have access to confidential or sensitive information. Also, screens or reports in ConnectND HRMS used for other purposes can contain social security numbers, bank account information, and personally identifiable information. Access to data should be provided based on the individual's demonstrated need to view, add, change, or delete data.

#### Recommendation:

We recommend the Office of Management and Budget and the North Dakota University System:



- a) design roles to ensure that access to sensitive information is properly restricted; and
- b) communicate to agencies, colleges, and universities roles that have access to sensitive information to ensure such roles are properly assigned.

### **Agency Response:**

#### **Office of Management and Budget**

OMB will review access to sensitive information and will ensure that access is only available in roles requiring that information or roles responsible for that information.

#### **North Dakota University System**

We agree that roles should be designed to restrict access to sensitive information, and have changed one role that contained inappropriate access after being made aware of this by the SAO.

Training has been made available to employees with access to sensitive data. The Security Group will develop and run queries to determine which roles have the sensitive information so that they can inform and train the Campus Access Control Officers about the assignment of those particular roles

### **Default accounts not locked timely**

When we reviewed default accounts, we identified approximately 150 accounts matching the criteria for default accounts that were not locked out. This occurs because default accounts are restored and unlocked when updates are applied. Default accounts need to be either removed or disabled to prevent users from gaining unauthorized access to the system. After bringing this to the attention of the Information Technology Department, these accounts were locked.

### **Recommendation:**

We recommend the Information Technology Department put procedures in place to ensure all default PeopleSoft accounts are locked in a timely manner when updating ConnectND HRMS.

### **Agency Response:**

#### **Information Technology Department**

ITD Will:

- A) Generate an automated monthly report that will show us all accounts in an unlocked status. ITD will then review this report, determine if any are default PeopleSoft accounts, and if so ITD will then lock the accounts.
- B) Work with ITD Application Server Group for proper notification when system patches and updates will be applied so that the 'unlocked status' report can be re-run to see if any default PeopleSoft accounts were created or unlocked.
- C) This will in place by August 1<sup>st</sup> 2005

### **Auditor's Opinion**

In our opinion, security roles do not provide access based on a demonstrated need to view, add, change, or delete data.

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## ARE ACCOUNTS THAT HAVE “SUPERUSER” ACCESS NECESSARY?

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### Summary of Audit Work Performed

An account with superuser access is an account with access to all or nearly all ConnectND HRMS functions and data, or one with the ability to modify security rights.

We created and ran two queries to pull all accounts with superuser access. We reviewed the list of accounts that had superuser access to determine whether this type of access was appropriate.

### Audit Findings

#### Excess superuser access

We found seven individuals and two system accounts that had improperly been given the ability to modify security rights. Access to data should be provided based on the individual's demonstrated need to view, add, change, or delete data. There is a risk that unauthorized changes could have been made to roles, permission lists, and user accounts from accounts that were improperly given the Security Administrator role. We notified the Information Technology Department (ITD) of the accounts with the Security Administrator role. ITD promptly removed this role from those accounts.

### Auditor's Opinion

In our opinion, superuser access granted in ConnectND HRMS is necessary.

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## **WAS SECURITY IMPLEMENTED TO ENSURE THAT USERS DO NOT HAVE UPDATE ACCESS TO THEIR OWN PAYROLL INFORMATION?**

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### **Summary of Audit Work Performed**

When a user account is set up, the account must be tied to the user's employee ID by entering their employee ID number in the employee ID field to prevent the user from updating their own payroll. A review was done of state accounts and North Dakota University System (NDUS) accounts to determine whether accounts were tied to the user's employee ID.

### **Audit Findings**

#### **Ability to update one's own payroll data**

Initially, we noted approximately 1,200 user accounts were not tied to the user's employee ID. The vast majority of these were for NDUS accounts. We reviewed users with access to update payroll information and found that there were 93 of them. Sixty of the 93 user accounts were not tied to the employee ID. During our final review, we noted an additional six state accounts and four NDUS accounts were not tied to the user's employee ID. One of the state accounts had update access to payroll information.

Employees with update access may have been able to change their own payroll information. Good internal controls prevent an individual from changing their own payroll and ensure that the owner of each user account is identified.

#### **Recommendation:**

We recommend the Information Technology Department and the North Dakota University System ensure that all user accounts are properly attached to the user's employee ID number.

#### **Agency Response:**

##### **Information Technology Department**

ITD Will:

- A) Ensure that all ConnectND ADD requests on the ITD Work Management System require an employee ID.
- B) Generate a baseline report showing all valid user accounts that need no employee ID and have OMB verify this baseline report
- C) Generate an automated monthly report showing all non-baseline accounts that have no employee ID and forward this report to OMB for action.
- D) This will in place by August 1<sup>st</sup> 2005

##### **North Dakota University System**

This work had not been completed prior to the audit due to the final four campuses going live in 2005. This work has now been completed. The Security Team now has a rule whereby they will no longer create a user profile for anyone without an EmplID. They also run queries periodically to verify that all users have EmplIDs with the exception of consultants

### **Auditor's Opinion**

In our opinion, proper security procedures are not implemented to ensure that users do not have update access to their own payroll information.

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## DOES PAYROLL DATA TIE TO WHAT IS ON THE GENERAL LEDGER?

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### Summary of Audit Work Performed

The data from ConnectND HRMS was compared to the data from the general ledger on ConnectND Financials in order to determine whether the data from ConnectND HRMS was correctly recorded in the general ledger. This was also done to ensure that the data in ConnectND HRMS is reliable in that it represents what is recorded in the general ledger.

We created and ran two queries in order to tie the data from ConnectND HRMS to the data from the general ledger. One query pulled data from ConnectND HRMS and the other query pulled data from the general ledger. The data from these two queries was then compared.

### Audit Findings

#### Invalid chart fields used in ConnectND HRMS

Data on ConnectND HRMS does not agree to data recorded on the general ledger from ConnectND Financials by account, fund, and department. Neither the Office of Management and Budget (OMB) nor the North Dakota University System is validating chart field information used by agencies on ConnectND HRMS prior to running payroll for the month. This allows invalid chart field information to be processed and sent to the general ledger. In some circumstances, OMB and the North Dakota University System appear to be modifying the general ledger entries after they are sent from ConnectND HRMS. Since data on ConnectND HRMS does not tie to data recorded on the general ledger, data taken from ConnectND HRMS does not reflect how the data is actually recorded on the general ledger and is therefore unreliable. Transactions entered for processing should be subject to a variety of controls to check for accuracy, completeness, and validity. Data should be validated and edited as close to the point of origination as possible.

#### Recommendation:

We recommend the Office of Management and Budget and the North Dakota University System design a query or process to validate chart field information on ConnectND HRMS and correct errors found prior to processing payroll. In addition, when errors do occur, the Office of Management and Budget should correct them in ConnectND HRMS to ensure the data in ConnectND HRMS agrees to what is recorded on the general ledger in ConnectND Financials.

#### Agency Response:

##### Office of Management and Budget

OMB uses a query that is run after the initial 'send' of info to general ledger. The query is used to validate chartfields to the values that exist in HRMS. Upon redistribution of charges, OMB is identifying and fixing any errors through HRMS.

##### North Dakota University System

After every payroll runs, but prior to the GL interface being processed, campuses are provided error reports and given the opportunity to make chart field corrections in HRMS. If a campus discovers a funding error after the GL interface has processed, corrections can be made through the retroactive distribution process in HRMS.

This is a change in business process from what used to work in the legacy system, and campuses are continuing to learn the importance of making these changes in HRMS instead of Finance. Campuses are motivated to learn this new method, since grants and contracts effort reporting will not work properly without using this new method

### **Auditor's Opinion**

In our opinion, payroll data does not tie to what is on the general ledger from ConnectND Financials.

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## ARE PAYROLL/HRMS POLICIES AND PROCEDURES ADEQUATE?

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### Summary of Audit Work Performed

We reviewed the policies and procedures the Office of Management and Budget (OMB) has in place for agencies to follow regarding payroll. We also reviewed the training manuals provided to users.

### Audit Findings

#### Inadequate policies and procedures

We found that guidance is not available to agencies regarding internal controls for the payroll process in the form of policies and procedures from OMB. Policies and procedures are necessary to minimize errors and increase operating efficiency.

#### Recommendation:

We recommend the Office of Management and Budget develop a comprehensive payroll manual which outlines the policies and procedures to be used by all state agencies. At a minimum, the manual should address proper internal controls and compliance with state law and OMB policy.

#### Agency Response:

##### Office of Management and Budget

OMB will compile existing user instruction manuals, ensure they are up-to-date and accurate, and develop a master HR/Payroll manual to include information regarding internal controls. Completion of this effort may be affected by plans for upgrade to HRMS v8.9 depending on changes to business process with the new version.

### Auditor's Opinion

In our opinion, policies and procedures for payroll are not adequate.

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## **IS THE PHYSICAL PROCESSING ENVIRONMENT FOR CONNECTND HRMS ADEQUATELY CONTROLLED?**

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### **Summary of Audit Work Performed**

The physical processing environment for ConnectND HRMS is the responsibility of the Information Technology Department.

We reviewed several aspects of the physical processing environment for ConnectND HRMS. Areas reviewed include: computer hardware, policies and procedures, software updates and support, access to data and code, and disaster recovery.

### **Auditor's Opinion**

In our opinion, the physical processing environment for ConnectND HRMS is adequately controlled.

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## **ARE PAYROLL WITHHOLDINGS AND DEDUCTIONS BEING REMITTED TIMELY AND PROPERLY?**

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### **Summary of Audit Work Performed**

We reviewed the tables used to calculate tax withholdings and determined these tables to be accurate. We reviewed certain miscellaneous deductions and determined them to be accurate as well.

In order to determine whether the withholdings and deductions were timely, we reconciled the check register from April 1, 2005 for the Office of Management and Budget Unemployment/Payroll Clearing Account, with the total payroll deductions for March payroll paid April 1. The deductions that are not paid on the 1<sup>st</sup> of the month are put in a holding account until the money is remitted. We reviewed the processes used in paying these deductions.

### **Auditor's Opinion**

In our opinion, payroll withholdings and deductions are being remitted timely and properly.